CHAPTER 5

WATER QUALITY PARTNERSHIPS IN THE NOLICHUCKY RIVER WATERSHED

5.1. BACKGROUND. The Watershed Approach relies on participation at the federal, state, local and nongovernmental levels to be successful. Two types of partnerships are critical to ensure success:

- Partnerships between agencies
- Partnerships between agencies and landowners

This chapter describes both types of partnerships in the Tennessee Portion of the Nolichucky River Watershed. The information presented is provided by the agencies and organizations described.

5.2. FEDERAL PARTNERSHIPS.

5.2.A. Natural Resources Conservation Service. The Natural Resources Conservation Service (NRCS), an agency of the U.S. Department of Agriculture, provides technical assistance, information, and advice to citizens in their efforts to conserve soil, water, plant, animal, and air resources on private lands.

Performance Results System (PRS) is a Web-based database application providing USDA Natural Resources Conservation Service, conservation partners, and the public fast and easy access to accomplishments and progress toward strategies and performance. The PRS may be viewed at http://prms.nrcs.usda.gov/prs. From the opening menu, select "Reports" in the top tool bar. You will select the time period that you are interested in and the conservation treatment of interest on the page that comes up. Depending on the time period of interest, you will have various report options to choose from, such as location, reporting period and program involved in the reporting. You may be required to "refresh" the page in order to get the current report to come up.

The data can be used to determine broad distribution trends in service provided to customers by NRCS conservation partnerships. These data do not show sufficient detail to enable evaluation of site-specific conditions (e.g., privately-owned farms and ranches) and are intended to reflect general trends.

Conservation Practice	Feet	Acres	Number
Conservation Buffers	64,155	64	
Erosion Control		6,434	
Irrigation Management		364	
Nutrient Management		20,590	
Pest Management		21,488	
Grazing / Forages	98,095	12,471	
Tree and Shrub Practices		4,482	
Tillage and Cropping		6,548	
Waste Management Systems			8
Wetlands			40
Wildlife Habitat Management			4,384
Water Supply	59,108		72

Table 5-1. Landowner Conservation Practices in Partnership with NRCS in the Tennessee Portion of the Nolichucky River Watershed. *Data are from PRMS for October 1, 2002 through September 30, 2006 reporting period. More information is provided in Appendix V.*

5.2.B. United States Geological Survey – Tennessee Water Science Center Programs. The United States Geological Survey (USGS) provides relevant and objective scientific information and data for public use in evaluation of the quantity, quality, and use of the Nation's water resources. National USGS water resource assessments include the National Streamflow Information Program (http://water.usgs.gov/nsip/), National Atmospheric Deposition Network (http://bqs.usgs.gov/acidrain/), the National Stream Quality Accounting Network (http://water.usgs.gov/nasqan/), and the National Water Quality Assessment Program (http://water.usgs.gov/nawqa). For a national overview of USGS water resources programs, please visit http://water.usgs.gov.

In addition to national assessments, the USGS also conducts hydrologic investigations and data collection in cooperation with numerous federal, state, and local agencies to address issues of national, regional, and local concern. Hydrologic investigations conducted by the USGS Tennessee Water Science Center address scientific questions pertaining to five general thematic topics:

1. Water Use and Availability,
2. Landforms and Ecology,
3. Watersheds and Land Use,
4. Occurrence, Fate, and Transport of Contaminants,
5. Floods and Droughts.

In support of these investigations, the USGS Tennessee Water Science Center records streamflow continuously at more than 100 gaging stations, makes instantaneous measurements of streamflow at numerous other locations as needed or requested, monitors ground-water levels statewide, and analyzes the physical, chemical, and biologic characteristics of surface and ground waters. In addition, the Water Science Center compiles annual water-use records for the State of Tennessee and collects a variety of data in support of National USGS baseline and other networks. More information pertaining to USGS activities in Tennessee can be accessed at http://tn.water.usgs.gov.

USGS Water Resources Information on the Internet. Real-time and historical streamflow, water-level, and water-quality data at sites operated by the USGS Tennessee Water Science Center can be accessed on-line at http://waterdata.usgs.gov/tn/nwis/nwis. Data can be retrieved by county, hydrologic unit code, or major river basin using drop-down menus on the web page. For specific information or questions about USGS streamflow data, contact Donna Flohr at (615)837-4730 or dfflohr@usgs.gov. Recent USGS Tennessee Water Science Center publications can be accessed by visiting http://tn.water.usgs.gov/pubpg.html. A searchable bibliographic database is also provided for locating other USGS reports and products addressing specific scientific topics.

5.2.C. U.S. Fish and Wildlife Service.

The mission of the U.S. Fish and Wildlife Service is working with partners to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people. Sustaining our nation's fish and wildlife resources is a task that can be accomplished only through the combined efforts of governments, businesses, and private citizens. The U.S. Fish and Wildlife Service (Service) works with state and federal agencies and tribal governments, helps corporate and private landowners conserve habitat, and cooperates with other nations to halt illegal wildlife trade. The Service also administers a Federal Aid Program that distributes funds annually to states for fish and wildlife restoration, boating access, hunter education, and related projects across America. The funds come from federal excise taxes on fishing, hunting, and boating equipment.

Endangered Species Program

Through the Endangered Species Program, the Service consults with other federal agencies concerning their program activities and their effects on endangered and threatened species. Other Service activities under the Endangered Species Program include the listing of rare species under the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended: 16 U.S.C. 1531 et seq.) and the recovery of listed species. Once listed, a species is afforded the full range of protections available under the ESA, including prohibitions on killing, harming, or otherwise taking a species. In some instances, species listing can be avoided by the development of Candidate Conservation Agreements, which may remove threats facing the candidate species, and funding efforts such as the Private Stewardship Grant Program.

Recovery is the process by which the decline of an endangered or threatened species is stopped and reversed, and threats to the species' survival are eliminated, so that long-term survival in nature can be ensured. The goal of the recovery process is to restore listed species to a point where they are secure and self-sustaining in the wild and can be removed from the endangered species list. Under the ESA, the Service and National Marine Fisheries Service were delegated the responsibility of carrying out the recovery program for all listed species.

In an effort to preclude the listing of rare species, the Service engages in proactive conservation efforts for unlisted species. The program covers not only formal candidates but also other rare species that are under threat. Early intervention preserves management options and minimizes the cost of recovery. The Service is working with multiple partners, including the United States Department of Agriculture, Natural Resources Conservation Service (NRCS), United States Geological Survey (USGS), Tennessee Valley Authority (TVA), Tennessee Wildlife Resources Agency (TWRA), Middle Nolichucky Watershed Association, Greene County Soil Conservation District, Conservation Fisheries, Inc. (CFI), and private landowners to preclude the need to list the chucky madtom (*Noturus* sp. cf. *elegans*), a candidate for Federal listing.

The USGS recently completed a distribution survey for the chucky madtom in Little Chucky Creek and its tributaries. Biologists from the Service, TVA, CFI, and TWRA annually collect this elusive species in hopes of acquiring brood stock for restoration

efforts. The Service and several partners work to cultivate positive relationships with private landowners and install best management practices aimed at protecting habitat and water quality in Little Chucky Creek. The Service also contributes funding to the Greene County Soil Conservation District's efforts to restore habitat for federally listed and candidate species by installing sediment control practices that improve water quality within the Nolichucky Watershed.

Utilizing funding provided through the Service's Landowner Incentives Program (LIP), TWRA and The Nature Conservancy (TNC) are working with private landowners to implement habitat restoration activities for rare species in the Nolichucky River Watershed. This relatively new program targets the restoration of suitable habitat for federally listed species as well as state listed rare species, many of which occur within this watershed.

In a partnership with TNC, TWRA, and Tennessee Department of Environment and Conservation (TDEC) Division of Natural Areas, the Service developed a State Conservation Agreement for Cave Dependent Species in Tennessee (SCA). The SCA targets unlisted but rare species and protects these species through a suite of proactive conservation agreements. The goal is to preclude the need to list these species under the ESA. This agreement covers middle and eastern Tennessee and will benefit water quality in many watersheds within the State.

The following federally endangered (E), threatened (T), and candidate (C) species occur in the Nolichucky River Watershed: chucky madtom (*Noturus crypticus*) (C); snail darter (*Percina tanasi*) (T); Appalachian elktoe (*Alasmidonta raveneliana*) (E); Cumberland bean (*Villosa trabalis*) (E); Cumberlandian combshell (*Epioblasma brevidens*) (E); fine-rayed pigtoe (*Fusconaia cuneolus*) (E); oyster mussel (*Epioblasma capsaeformis*) (E); pink mucket (*Lampsilis abrupta*) (E); rayed bean (*Villosa fabalis*) (C); rough rabbitsfoot (*Quadrula cylindrical strigillata*) (E); slabside pearlymussel (*Lexingtonia dolabelloides*) (C); spectaclecase (*Cumberlandia monodonta*) (C); gray bat (*Myotis grisescens*) (E); spruce-fir moss spider (*Microhexura montivaga*) (E); Blue Ridge goldenrod (*Solidago spithamaea*) (T); Roan Mountain bluet (*Hedyotis purpurea var. montana*) (E); rock gnome lichen (*Gymnoderma lineare*) (E); spreading avens (*Geum radiatum*) (E); and Virginia spiraea (*Spiraea virginiana*) (T). Federally designated critical habitat for the Cumberlandian combshell and oyster mussel exists in the Nolichucky River from River Mile 9.0, upstream from the Enka Dam in Cocke County, to the Susong Bridge at River Mile 14.0 in Greene County. For a complete listing of endangered and threatened species in Tennessee, please visit the Service's website at http://www.fws.gov/cookeville/

Partners for Fish and Wildlife Program

The U.S. Fish and Wildlife Service established the Partners for Fish and Wildlife Program to restore historic habitat types, which benefit native fishes and wildlife. The program adheres to the concept that restoring or enhancing habitats such as wetlands or other unique habitat types will substantially benefit federal trust species on private lands by providing food and cover or other essential needs. Federal trust species include threatened and endangered species, as well as migratory birds (e.g. waterfowl, wading

birds, shorebirds, neotropical migratory songbirds).

Participation is voluntary and various types of projects are available. Projects include livestock exclusion fencing, alternate water supply construction, streambank stabilization, restoration of native vegetation, wetland restoration/enhancement, riparian zone reforestation, and restoration of in-stream aquatic habitats.

The Service is actively involved with the NRCS and private landowners in the Nolichucky River Watershed to restore and protect riparian habitats. Specific projects include the installation of livestock exclusion fencing, alternate water sources, heavy-use feeding pads, and hardened stream crossings.

HOW TO PARTICIPATE...

- Interested landowners contact a Partners for Fish and Wildlife Biologist to discuss the proposed project and establish a site visit.

- A visit to the site is then used to determine which activities the landowner desires and how those activities will enhance habitat for trust resources. Technical advice on proposed activities is provided by the Service, as appropriate.

- Proposed cost estimates are discussed by the Service and landowner.

- A detailed proposal which describes the proposed activities is developed by the Service biologist and the landowner. Funds are competitive, therefore the proposal is submitted to the Service's Ecosystem team for ranking and then to the Regional Office for funding.

- After funding is approved, the landowner and the Service co-sign a Wildlife Extension Agreement (minimum 10-year duration).

- Project installation begins.

- When the project is completed, the Service reimburses the landowner after receipts and other documentation are submitted according to the Wildlife Extension Agreement.

For more information regarding the Endangered Species and Partners for Fish and Wildlife programs, please contact the Cookeville Ecological Services Field Office at 931/528-6481 or visit their website at *http://www.fws.gov/cookeville/*

5.2.D. Tennessee Valley Authority (TVA). Tennessee Valley Authority's (TVA) goals for the 21st century are to generate prosperity for the Tennessee Valley by promoting economic development, supplying low-cost, reliable power, and supporting a thriving river system. TVA is committed to the sustainable development of the region and is engaged in a wide range of watershed protection activities to improve or protect water quality conditions.
TVA's watershed activities are conducted by 7 multidisciplinary Watershed Teams located throughout the Valley. These Watershed Teams help communities develop and implement protection and restoration activities in their local watersheds. In addition to water quality efforts, Watershed Teams carry out varied resource stewardship functions including management of TVA lands and shorelines, recreation, and resource management. These teams work in partnership with business, industry, government agencies, and community groups to manage, protect, and improve the quality of the Tennessee River and its tributaries. TVA also operates a comprehensive monitoring program to provide real-time information to the Watershed Teams and other entities about the conditions of these resources.

The following is a summary of TVA's resource stewardship and monitoring activities in the Nolichucky River watershed.

Monitoring

Stream Monitoring

Bacteriological Monitoring - Recreation is one of TVA's major objectives of the integrated river resource management system. TVA develops, maintains, and promotes public use of several recreational sites. Increased public knowledge about bacterial contamination has heightened the interest in bacteriological levels in recreational waters by both TVA and our stakeholders. Each summer, TVA tests about 250 swimming areas and informal water contact recreational sites throughout the Tennessee Valley for *Escherichia coli* (*E. coli*) bacteria. These sites include those operated by TVA and many operated by other agencies. The site list is reexamined annually by the appropriate watershed teams and other TVA organizations to ensure the most heavily used sites are monitored. Bacteriological water sampling is conducted between Memorial Day and Labor Day when people are most likely to be recreating. Data from this sampling effort is shared with states agencies.

More information about bacteriological monitoring can be obtained by visiting TVA's website at http://www.tva.gov/environment/ecohealth/ or by writing Kristy Gottfried at kgottfri@tva.gov.

Fish Flesh Toxic Contaminants - State agencies are responsible for advising the public of health risks from eating contaminated fish. TVA assists the states by collecting fish from TVA reservoirs and major tributary streams and checking the tissue for metals, pesticides, PCBs, and other chemicals that could affect human health.

More information on fish tissue monitoring can be obtained by visiting TVA's website at http://www.tva.gov/environment/ecohealth/ or by writing Jason Yarbrough at jyarbrough@tva.gov.

Bioassessment

Conditions of water resources in streams are measured using three independent methods; Index of Biotic Integrity (IBI), number of mayfly, stonefly, and caddisfly taxa (EPT), and Habitat Assessment. Not all of these tools are used at each stream sample site.

Stream assessments support TVA's Watershed Operations that consists of seven watershed teams charged with protecting and restoring water quality in the Tennessee Valley. TVA's objective is to characterize the quality of water resources within a watershed, which is referenced by its 11-digit Hydrologic Unit Code (HUC). Assessments are used to prioritize HUCs for stream restoration projects, monitor stream restoration project success and measure TVA's Resource Stewardship's environmental performance.

Sites are typically located in the lower end of sub-watersheds and at intervals on the mainstem to integrate the effects of land use. Eight hundred and sixty-nine stream stations are sampled to assess ecological condition of 547 eleven digit HUCs of the Tennessee Valley. Sites are typically sampled every five years to keep a current picture of watershed condition.

IBI - The index of biotic integrity (IBI) assesses the quality of water resources in flowing water by examining a stream's fish assemblage. Fish are useful in determining long-term (several years) effects and broad habitat conditions because they are relatively long-lived and mobile. Twelve metrics address species richness and composition, trophic structure (structure of the food chain), fish abundance, and fish health. Each metric reflects the condition of one aspect of the fish assemblage and is scored against reference streams in the region known to be of very high quality. Potential scores for each of the twelve metrics are 1-poor, 3-intermediate, or 5-the best to be expected. Scores for the 12 metrics are summed to produce the IBI for the site.

EPT - The number and types of aquatic insects, like fish, are indicative of the general quality of the environment in which they live. Unlike fish, aquatic insects are useful in determining short-term and localized impacts because they are short-lived and have limited mobility. The method TVA uses involves only qualitative sampling and field identification of (Ephemeroptera (mayflies), (Plecoptera, (stoneflies), and (Trichoptera (caddisflies) to the family taxonomic level. The score for each site is simply the number of EPT families. Higher EPT scores are indicative of high quality streams because these insect larvae are intolerant of poor water quality.

Habitat Assessment - The quality and quantity of habitat (physical structure) directly affect aquatic communities. Habitat assessments are done at most stream sampling sites to help interpret IBI and EPT results. If habitat quality at a site is similar to that found at a good reference site, any impacts identified by IBI and EPT scores can reasonably be attributed to water quality problems. However, if habitat at the sample site differs considerably from that at a reference site, lower than expected IBI and EPT scores might be due to degraded habitat rather than water quality impacts.

The habitat assessment method used by TVA (modified EPA protocol) compares observed instream, channel, and bank characteristics at a sample site to those expected at a similar high-quality stream in the region. Each of the stream attributes listed below is given a score of 1 (poorest condition) to 4 (best condition). The habitat score for the sample site is simply the sum of these attributes. Scores can range from a low of 10 to a high of 40.

1. Instream cover (fish)
2. Epifaunal substrate
3. Embeddedness
4. Channel Alteration
5. Sediment Deposition
6. Frequency of Riffle
7. Channel Flow Status
8. Bank vegetation protection - Left bank and right bank, separately
9. Bank stability - Left bank and right bank, separately
10. Riparian vegetation zone width - Left bank and right bank, separately

Details about Stream Bioassessment (sites and scores) can be obtained by writing Charles Saylor at Tennessee Valley Authority, PO Box 920, Ridge Way Road, Norris, TN 37828 or calling him at 865-632-1779. Email him at cfsaylor@tva.gov.

Outreach Efforts

Nolichucky River 06010108

Greene County, TN- Tennessee Growth Readiness Workshop Series
The Tennessee Growth Readiness Initiative (TGRI) is an educational program that focuses on teaching local officials, and other decision makers about the sources and impacts of nonpoint source pollution, how different land uses affect water quality, and what communities can do to protect water quality.

Conservation Day on Little Chucky Creek
The program provides children with a hands-on experience and connection to the outdoors. It is our goal that this experience will foster a desire to help protect streams and that the students will become involved in stream conservation as the future adults of their community. The students spend time at four stations: aquatic insects, fish community, water quality, and watershed education. Each station focuses on the importance of a healthy stream both for the ecosystem and human health.

Details about Outreach Activities an be obtained by writing the Holston-Cherokee-Douglas Watershed Team, 3726 E. Morristown Blvd., Morristown, TN, 37813 or calling Dana Ball at 423-585-2128 or emailing Dana at dmball@tva.gov.

5.2.E. USDA – Forest Service. The USDA Forest Service manages approximately 645,000-acres in Tennessee (Cherokee National Forest (CNF)). This ownership includes about 91,000 acres within the Nolichucky River Watershed in Tennessee. The general mission of the Forest Service is to achieve an ecological and sustainable, multiple use approach to land management that meets the diverse needs of people. In order to achieve this mission, a watershed-based approach to ecosystem management has been adopted.

A variety of management activities occur within the Nolichucky River watershed on national forest lands. Some of these include:

Ecosystem Management and Restoration. Prescribed burning and vegetation treatments are used to meet a variety of ecosystem-based management objectives. Periodically, prescribed fire is used to reduce hazardous fuel loads and improve wildlife habitat conditions within the watershed on CNF lands. Thinning and regeneration cuts are also used on selected areas where timber harvest is necessary to achieve restoration or wildlife habitat objectives. The southern pine beetle has impacted pine forest types within this watershed in the recent past. The Hemlock Wooly Adelgid is currently infesting hemlock trees in this watershed and other areas in Tennessee. Efforts are currently underway to provide for the conservation of the hemlock through a variety of means to suppress the Hemlock Wooly Adelgid on a local basis.

Recreation Management. A variety of recreation uses occur on National Forest lands within this watershed. Hiking, whitewater boating, fishing, camping, horse use, scenic viewing and hunting are some of the many uses. Developed and dispersed recreation opportunities are provided.

Inventory and Monitoring. There are 47 perennial streams capable of supporting fish and approximately double that number of perennial and intermittent streams that support other aquatic organisms in the Nolichucky River Watershed on National Forest system lands. Three-pass electro-fishing and instream habitat surveys are conducted on some of these streams. Since 1997, thirty-six surveys have been conducted in the Nolichucky River Watershed. A total of 42 species of fish have been documented in these streams. One federally listed species, Appalachian elktoe mussel, is documented on National Forest lands in this watershed.

The instream habitat surveys document physical characteristics in the stream. Degraded conditions are identified and corrected as needed. The most frequently documented degradation is a lack of large wood in the stream channel. Log structures have been installed to alleviate a portion of this problem.

Other Management Activities. A variety of additional management activities occur within the Nolichucky River watershed on national forest lands. These include:

- Collaborative planning with a variety of other federal, state and local agencies and private individuals to identify and prioritize watershed improvement needs on public and private lands
- Watershed improvements including road and trail decommissioning to reduce soil loss and sediment yield

- Environmental education programs with school, scouting and other groups

Further information about the Cherokee National Forest can be found on its homepage at http://www.fs.fed.us/r8/cherokee/.

5.2.F. National Park Service. Great Smoky Mountains National Park (GSMNP) is rich with nearly 3,400 kilometers (2,100 miles) of cool and cold-water stream habitats. Of this total, 1,280 km (800 miles) support a diverse fish community. Large stream systems (4^{th}-5^{th} order) support the greatest diversity of fishes in GSMNP, including 12 families and over 60 species. Many of the fish species found in these large stream systems are excellent indicators of natural and anthropogenic environmental impacts. Large stream systems in GSMNP are sampled each fall in an attempt to provide a snapshot of the diversity of habitat and fish species found in the Park's larger stream systems. Backpack electrofishing gear and three-pass depletion estimates are used to evaluate year-class strength, reproductive success, density (# fish/100m^2), biomass (kg/ha), and other trend information.

For more information on biological monitoring, contact the Great Smoky Mountains National Park at grsm_smokies_information@nps.gov.

5.3. STATE PARTNERSHIPS.

5.3.A. TDEC Division of Water Supply. The Source Water Protection Program, authorized by the 1996 Amendments to the Safe Drinking Water Act, outline a comprehensive plan to achieve maximum public health protection. According to the plan, it is essential that every community take these six steps:

1) Delineate the drinking water source protection area
2) Inventory known and potential sources of contamination within these areas
3) Determine the susceptibility of the water supply system to these contaminants
4) Notify and involve the public about threats identified in the contaminant source inventory and what they mean to their public water system
5) Implement management measures to prevent, reduce or eliminate threats
6) Develop contingency planning strategies to deal with water supply contamination or service interruption emergencies (including natural disaster or terrorist activities).

Source water protection has a simple objective: to prevent the pollution of the lakes, rivers, streams, and ground water (wells and springs) that serve as sources of drinking water before they become contaminated. This objective requires locating and addressing potential sources of contamination to these water supplies. There is a growing recognition that effective drinking water system management includes addressing the quality and protection of the water sources.

Source Water Protection has a significant link with the Watershed Management Program goals, objectives and management strategies. Watershed Management looks at the health of the watershed as a whole in areas of discharge permitting, monitoring and protection. That same protection is important to protecting drinking water as well. Communication and coordination with a multitude of agencies is the most critical factor in the success of both Watershed Management and Source Water Protection.

Watershed management plays a role in the protection of both ground water and surface water systems. Watershed Management is particularly important in areas with karst (limestone characterized by solution features such as caves and sinkholes as well as disappearing streams and springs), since the differentiation between ground water and surface water is sometimes nearly impossible. What is surface water can become ground water in the distance of a few feet and vice versa.

Source water protection is not a new concept, but an expansion of existing wellhead protection measures for public water systems relying on ground water to now include surface water. This approach became a national priority, backed by federal funding, when the Safe Drinking Water Act amendments (SDWA) of 1996 were enacted. Under this Act, every public drinking water system in the country is scheduled to receive an assessment of both the sources of potential contamination to its water source of the threat these sources may pose by the year 2003 (extensions were available until 2004). The assessments are intended to enhance the protection of drinking water supplies within existing programs at the federal, state and local levels. Source water

assessments were mandated and funded by Congress. Source water protection will be left up to the individual states and local governments without additional authority from Congress for that progression.

Tennessee's Wellhead Protection Rules were revised as of October 29, 2005 to include requirements for similar protection for public water systems using surface water sources under the heading of Drinking Water Source Protection Rule (1200-5-1-.34) in addition to the previous requirements for wellhead protection for public water systems using ground water sources. The rule addresses surface or ground water withdrawals in the vicinity of public water sources as well as potential contaminant sources threatening public water sources to reflect the amended prohibitions in the 2002 Amendments to the Tennessee Safe Drinking Water Act, TCA 68-221-771. There are additional reporting requirements of potential contaminant source inventories and emergency response for the public water systems as well. The Division of Water Supply will be able to use the Drinking Water Source Protection Rule to work in complimentary fashion with the Division of Water Pollution Control and other Departmental agencies in activities to protect public water sources.

As a part of the Source Water Assessment Program, public water systems are evaluated for their susceptibility to contamination. These individual source water assessments with susceptibility analyses are available to the public at: http://www.state.tn.us/environment/dws as well as other information regarding the Source Water Assessment Program and public water systems.

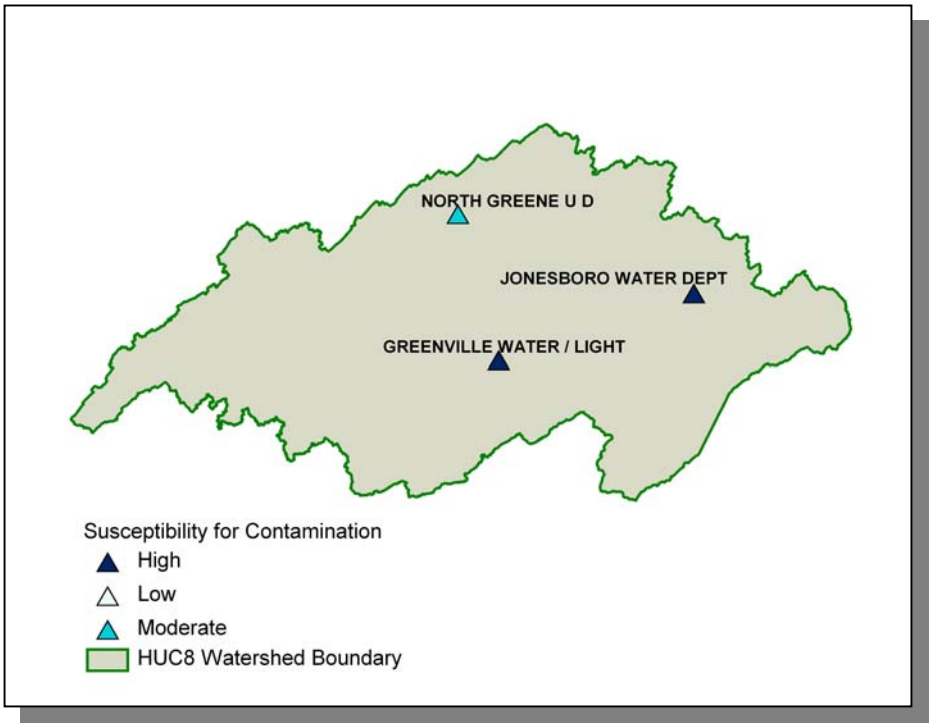

Figure 5-1. Public Water Systems Susceptible to Contamination in the Tennessee Portion of the Nolichucky River Watershed.

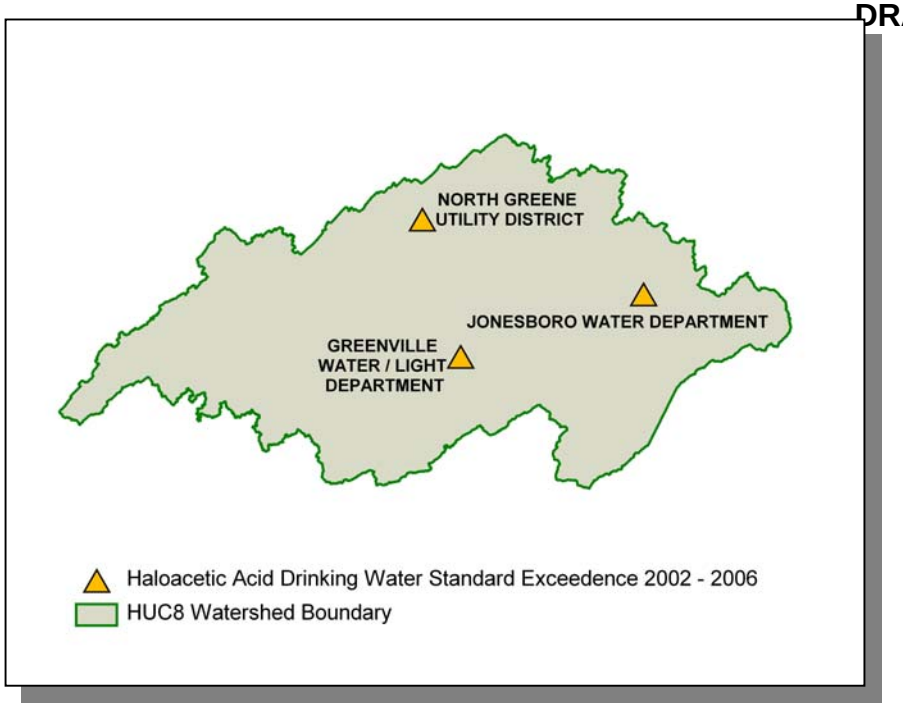

Figure 5-2. Exceedences of the Haloacetic Acid Drinking Water Standard in the Tennessee Portion of the Nolichucky River Watershed.

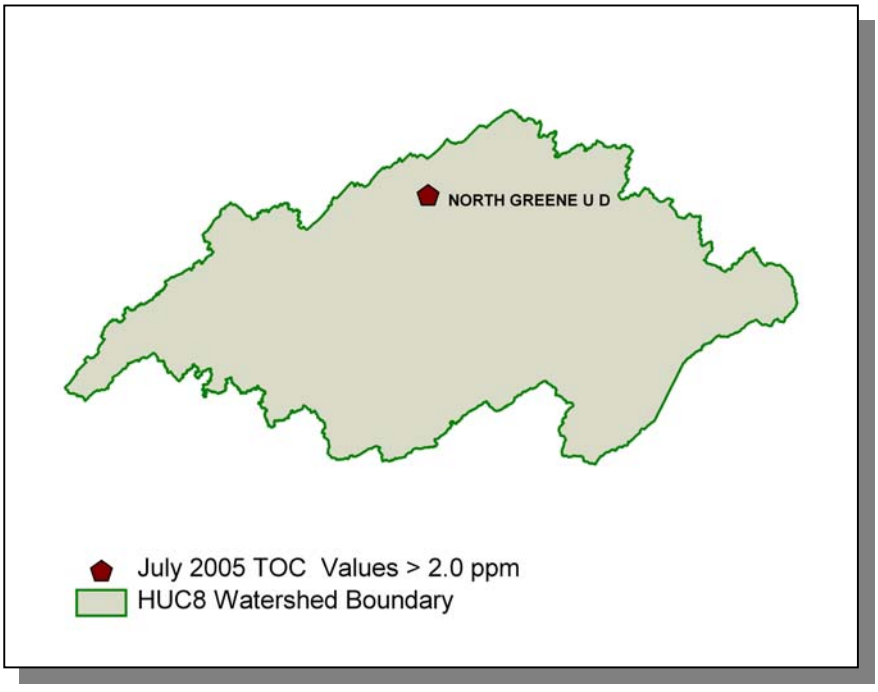

Figure 5-3. July 2005 Raw Water Total Organic Carbon (TOC) Analysis in the Tennessee Portion of the Nolichucky River Watershed.

For further discussion on ground water issues in Tennessee, the reader is referred to the Ground Water Section of the 305(b) Water Quality Report at:

http://state.tn.us/environment/dws/pdf/2006gw305b.pdf

5.3.B. TDEC Clean Water State Revolving Fund Program. The Division of Water Pollution Control and the Division of Water Supply jointly administer the state's Clean Water State Revolving Fund Program. Amendment of the Federal Clean Water Act in 1987 created the Clean Water State Revolving Fund (SRF) Program to provide low-interest loans to cities, counties, and utility districts for the planning, design, and construction of wastewater facilities. The U.S. Environmental Protection Agency awards annual capitalization grants to fund the program and the State of Tennessee provides a twenty-percent funding match. TDEC has awarded loans totaling over $675 million since the creation of the SRF Program. SRF loan repayments are returned to the program and used to fund future SRF loans.

SRF loans are available for planning, design, and construction of wastewater facilities, or any combination thereof. Eligible projects include new construction or upgrading/expansion of existing facilities, including wastewater treatment plants, pump stations, force mains, collector sewers, interceptors, elimination of combined sewer overflows, and nonpoint source pollution remedies.

SRF loan applicants must pledge security for loan repayment, agree to adjust user rates as needed to cover debt service and fund depreciation, and maintain financial records that follow governmental accounting standards. SRF loan interest rates range from zero percent to market rate, depending on the community's per-capita income, taxable sales, and taxable property values. Most SRF loan recipients qualify for interest rates between 2 and 4 percent. Interest rates are fixed for the life of the term of the loan. The maximum loan term is 20 years or the design life of the proposed wastewater facility - whichever is shorter.

The SRF Program maintains a Priority Ranking System and Priority List for funding the planning, design, and construction of wastewater facilities. The Priority Ranking List forms the basis for funding eligibility determinations and allocation of Clean Water SRF loans. Each project's priority rank is generated from specific priority ranking criteria and the proposed project is then placed on the Project Priority List. Only projects identified on the Project Priority List may be eligible for SRF loans. The process of being placed on the Project Priority List must be initiated by a written request from the potential SRF loan recipient or their engineering consultant. SRF loans are awarded to the highest priority projects that have met SRF technical, financial, and administrative requirements and are ready to proceed.

Since SRF loans include federal funds, each project requires development of a Facilities Plan, an environmental review, opportunities for minority and women business participation, a State-approved sewer use ordinance and Plan of Operation, and interim construction inspections.

For further information about Tennessee's Clean Water SRF Loan Program, contact the Clean Water SRF Loan Program by telephone at (615) 532-0445 or visit their Web site at http://tennessee.gov/environment/srf.

5.3.C. Tennessee Department of Agriculture. The Tennessee Department of Agriculture's Water Resources Section administers the federal Section 319 Nonpoint Source Program and the Agricultural Resources Conservation Fund Program. Both of these are grant programs which award funds to various agencies, non-profit organizations, and universities that undertake projects to improve the quality of Tennessee's waters and/or educate citizens about the many problems and solutions to water pollution. Both programs fund projects associated with what is commonly known as "nonpoint source pollution."

The Tennessee Department of Agriculture's Nonpoint Source Program (TDA-NPS) has the responsibility for management of the federal Nonpoint Source Program, funded by the US Environmental Protection Agency through the authority of Section 319 of the Clean Water Act. This program was created in 1987 as part of the reauthorization of the Clean Water Act, and it established funding for states, territories and Indian tribes to address NPS pollution. Nonpoint source funding is used for installing Best Management Practices (BMPs) to stop known sources of NPS pollution, training, education, demonstrations, and water quality monitoring. The TDA-NPS Program is a non-regulatory program, promoting voluntary, incentive-based solutions to NPS problems. The TDA-NPS Program funds three types of programs:

- BMP Implementation Projects. These projects aid in the improvement of an impaired waterbody, or prevent a non-impaired water from becoming listed on the 303(d) List.

- Monitoring Projects. Up to 20% of the available grant funds are used to assist the water quality monitoring efforts in Tennessee streams, both in the state's 5-year watershed monitoring program, and also in performing before-and-after BMP installation, so that water quality improvements can be verified. Some monitoring in the Nolichucky River Watershed was funded under an agreement with the Tennessee Department of Agriculture, Nonpoint Source Program (U.S. Environmental Protection Agency Assistance Agreement C99944674-04-0 and C99944674-05-0).

- Educational Projects. The intent of educational projects funded through TDA-NPS is to raise the awareness of landowners and other citizens about practical actions that can be taken to eliminate nonpoint sources of pollution to the waters of Tennessee.

The Tennessee Department of Agriculture Agricultural Resources Conservation Fund Program (TDA-ARCF) provides cost-share assistance to landowners across Tennessee to install BMPs that eliminate agricultural nonpoint source pollution. This assistance is provided through Soil Conservation Districts, Resource Conservation and Development Districts, Watershed Districts, universities, and other groups. Additionally, a portion of the TDA-ARCF is used to implement information and education projects statewide, with the focus on landowners, producers, and managers of Tennessee farms and forests.

Participating contractors in the program are encouraged to develop a watershed emphasis for their individual areas of responsibility, focusing on waters listed on the Tennessee 303(d) List as being impaired by agriculture. Current guidelines for the

TDA-ARCF are available. Landowners can receive up to 75% of the cost of the BMP as a reimbursement.

Since January of 1999, the Department of Agriculture and the Department of Environment and Conservation have had a Memorandum of Agreement whereby complaints received by TDEC concerning agriculture or silviculture projects would be forwarded to TDA for investigation and possible correction. Should TDA be unable to obtain correction, they would assist TDEC in the enforcement against the violator. More information forestry BMPs is available at:

http://www.state.tn.us/agriculture/forestry/bmpmanual.html

The complaint form is available at:

http://www.state.tn.us/environment/wpc/forms/wqlogging_cn1274.doc

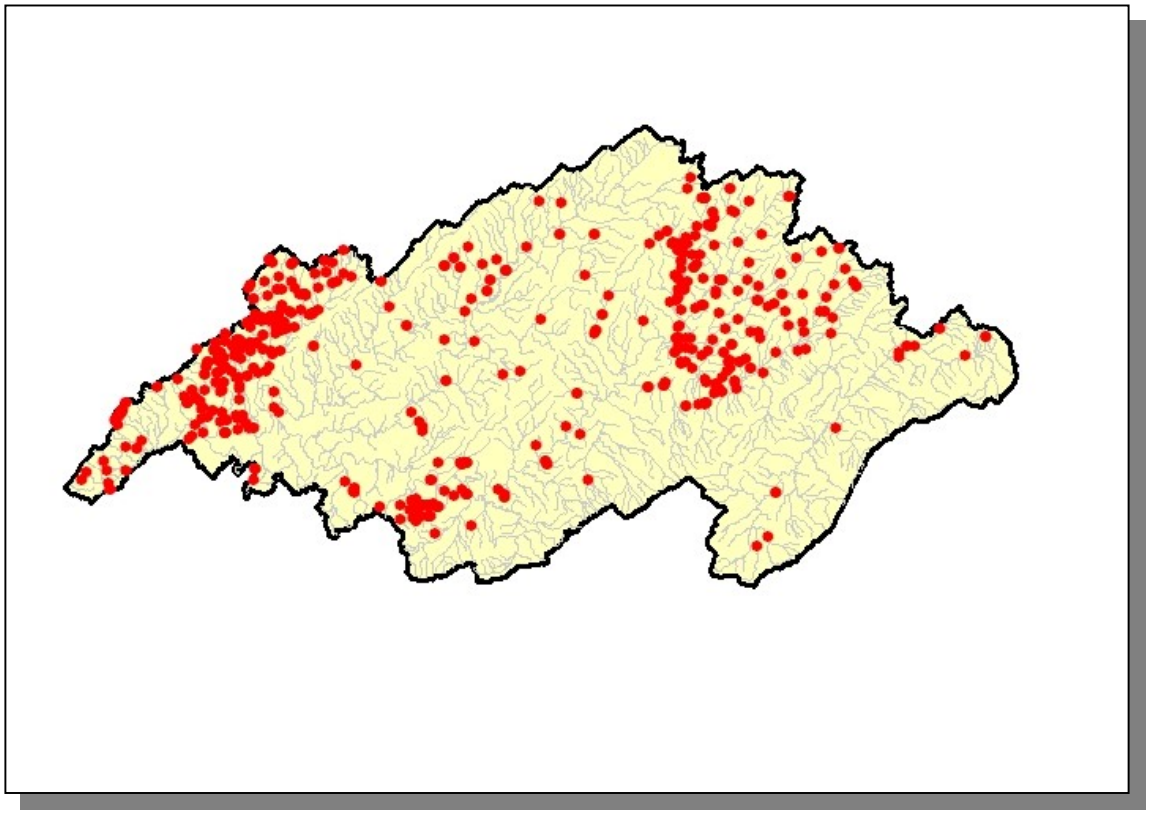

Figure 5-4. Location of BMPs installed from 2002 through 2006 in the Tennessee Portion of the Nolichucky River Watershed with Financial Assistance from the Tennessee Department of Agriculture's Nonpoint Source and Agricultural Resources Conservation Fund Grant Programs. *More information is provided in Appendix V.*

5.3.D. Tennessee Wildlife Resources Agency. The Tennessee Wildlife Resources Agency (TWRA) conducts a variety of activities related to watershed conservation and management. Fish management activities include documentation of fish and aquatic life through stream sampling and stocking of both warm water and cold-water sportfish. Fish data are managed in the Geographic Information System (GIS) project called Tennessee Aquatic Database System (TADS). TWRA nongame and endangered species projects include restoration of special status fish, aquatic life, and riparian wildlife. The Agency conducts a variety of freshwater mussel management, conservation, and restoration projects including the propagation and reintroduction of species once common in Tennessee streams. TWRA has been involved in riparian conservation projects since 1991 in partnership with state and federal agencies and conservation groups.

The Tennessee Aquatic Database System (TADS)

The Tennessee Aquatic Database System (TADS) originated in the mid-1980's as a geographically referenced fisheries database maintained on ESRI's GIS Arc/Info software. It consists of mapping coverages of streams, rivers and reservoirs along with relatable fisheries data files. These database files include stream and river fish distributions, sample site data, and Index of Biotic Integrity (IBI) data. The fish inventory data file contains over 15,000 records of fish occurrences from over 3,600 sample sites across the state. Fish data is referenced by river reach and a point coverage generated by latitude and longitude. Physical and chemical data and habitat evaluations from most of the sample sites have been entered into a database.

TWRA Fisheries stream survey data were consolidated, updated and entered into a Microsoft Access database to create the Tennessee Aquatic Database System 07 (TADS07), an updated version of the TADS. TADS07 contains fisheries stream survey data from 1987 to 2005.

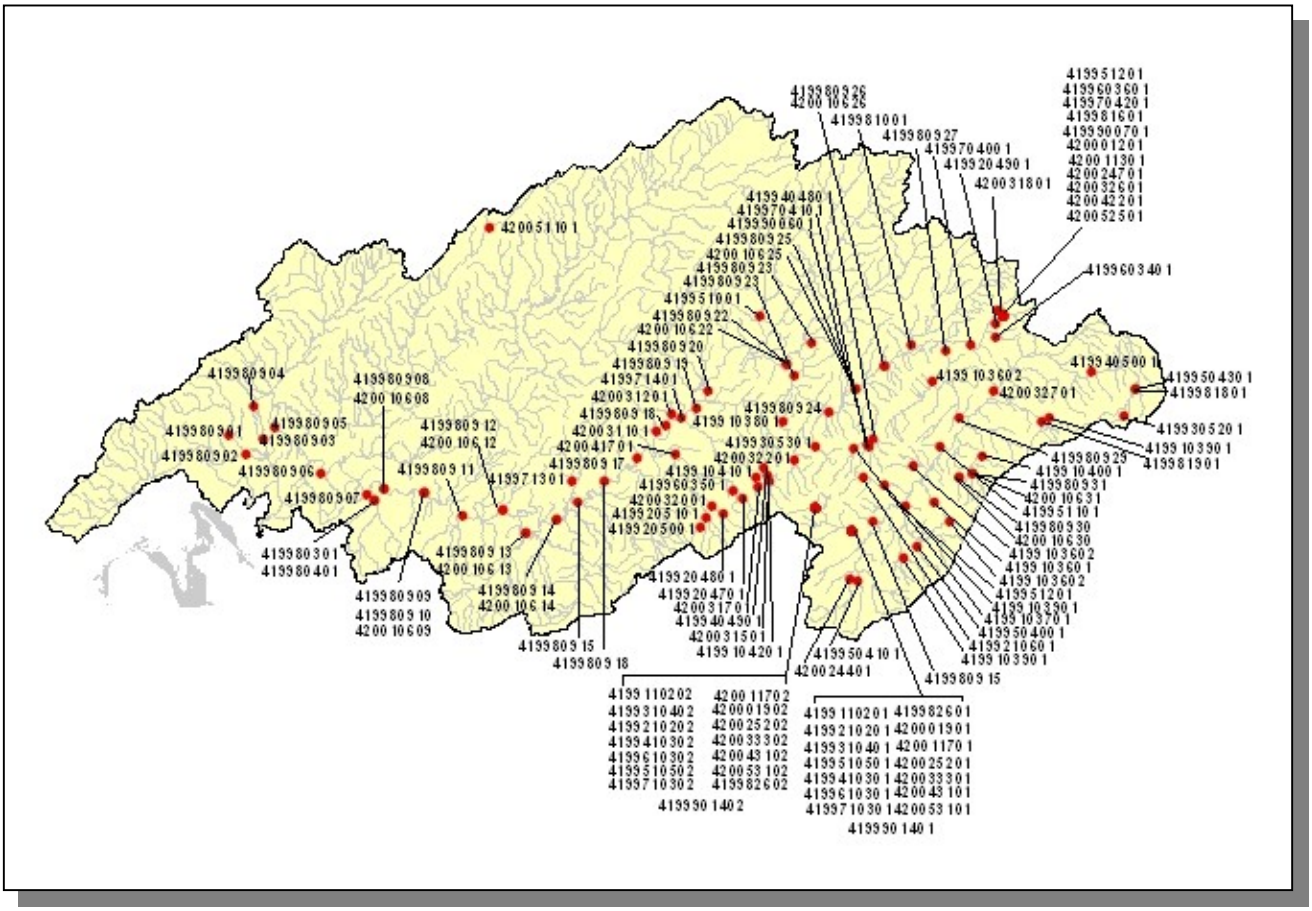

Figure 5-9. Location of TWRA TADS Sampling Sites in the Tennessee Portion of the Nolichucky River Watershed from 1987-2005. *More information is provided in Appendix V.*

Tennessee State Wildlife Action Plan (SWAP)

The Tennessee State Wildlife Action Plan (SWAP), formerly known as the Comprehensive Wildlife Conservation Strategy (CWCS), was developed by the Tennessee Wildlife Resources Agency with assistance from The Nature Conservancy in 2005. Congress mandated that each state and territory in the United States develop a SWAP as a requirement for continued receipt of federal State Wildlife Grant funding. These plans require the completion of 8 key elements of wildlife planning: 1) a list of animal species of greatest conservation need, 2) information about the distribution and abundance of species targets, 3) locations and relative conditions of key habitats, 4) descriptions of problems affecting target species and their habitats, 5) descriptions of conservation actions and priorities for conserving target species and habitats, 6) details for monitoring target species, conservation actions, and adaptive management, 7) discussion of plans to review the SWAP at specific intervals, and 8) information about coordination and implementation of the SWAP with major stakeholders. In Tennessee, the SWAP was integrated into a spatial model using Geographic Information Systems (GIS) and other database technology. Priority aquatic, terrestrial, and subterranean areas for conservation were identified across the state. Priorities were determined in the

GIS model based upon relative differences in species rarity, population viability, and potential mobility of species across habitat units.

Priority problems affecting species and needed conservation actions are detailed across each region of the state. For complete information about the Tennessee SWAP, please visit: http://www.state.tn.us/twra/cwcs/cwcsindex.html to read or download the full report.

For information on these and other water resources related activities, please contact your Regional TWRA office at the following phone numbers:

West Tennessee (Region I)	1-800-372-3928
Middle Tennessee (Region II)	1-800-624-7406
Cumberland Plateau (Region III)	1-800-262-6704
East Tennessee (Region IV)	1-800-332-0900

TDD services are available at 615-781-6691.
TWRA's website is http://www.state.tn.us/twra.

5.3.E. North Carolina Division of Water Quality

Basinwide Planning in North Carolina

The North Carolina Department of Environment and Natural Resources (NCDENR), Division of Water Quality's (DWQ) Planning Section prepare the basinwide water quality plans for each of the seventeen major river basins across the state. Basinwide planning is a watershed-based approach to restoring and protecting North Carolina's surface waters. Preparation of a basinwide plan is a five-year process and includes:

Phase I: Data collection and identification of goals
Phase II: Data analysis and coordination of stakeholders to identify and prioritize water quality issues in that river basin
Phase III: Preparation of the basinwide water quality plan (includes public review and comments), issuance of NPDES permits, and implementation of recommendations

While these plans are prepared by DWQ, their implementation and the protection of water quality entail the coordinated efforts of many agencies, local governments, and stakeholder groups across the state. The first cycle of plans was completed in 1998.

The goals of basinwide planning are to:

- Identify water quality problems and restore full use to impaired waters.
- Identify and protect high value resource waters.
- Protect unimpaired waters while allowing reasonable economic growth.

DWQ accomplishes these goals through the following objectives:

- Collaborate with other agencies to develop appropriate management strategies.
- Assure equitable distribution of waste assimilative capacity.
- Evaluate cumulative effects of pollution.
- Improve public awareness and involvement.
- Regulate point and nonpoint sources of pollution where other approaches are unsuccessful.

French Broad RiverBasin (including the Nolichucky River) in North Carolina

The basin is composed of three major drainage areas: the Upper French Broad River (HUC 06010105), the Pigeon River (HUC 06010106), and the **Nolichucky River (HUC 06010108)**. All three rivers individually flow northwest into Tennessee.

Specific watershed information in North Carolina can be found in the French Broad River Basinwide Water Quality Plan (April 2005). The plan is available on the DWQ Web site (www.ncwaterquality.org/basinwide/index.htm).

Water Quality Stressors and Sources in the French Broad River Basin

Many of the stressors related to water quality impairment in the basin include habitat degradation, fecal coliform bacteria, and altered watershed hydrology (i.e., impervious surfaces, stormwater runoff). Water quality stressors are identified when impacts have been noted to biological (fish and benthic) communities or water quality standards have been violated. In many cases, identifying stressors is challenging because direct measurements of the stressor may be difficult or prohibitively expensive. DWQ staff use field observations from sample sites, special studies, and data from ambient monitoring stations to identify stressors. It is important to identify stressors and potential sources of stressors so that water quality programs can target limited resources to address these issues.

Sources of stressors are most often associated with land use in a watershed, as well as the quality and quantity of any treated wastewater that may be entering a stream. Sources of stressors most often come from a watershed where the hydrology is altered enough to allow the stressor to be easily delivered to a stream during a rain event along with unnaturally large amounts of water. DWQ identifies the source of a stressor as specifically as possible depending on the amount of information available in a watershed. Most often, the source is based on the predominant land use in a watershed. Stressors sources identified in the French Broad River basin during this assessment period include urban or impervious surface areas, construction sites, road building, agriculture, and forestry. Point source discharges are also considered a water quality stressor source. More information about water quality stressors and sources can be found in the French Broad River Basinwide Water Quality Plan. The plan is available on the DWQ Web site (www.ncwaterquality.org/basinwide/index.htm).

Contact Information:

Michelle Raquet
Environmental Specialist
NCDENR DWQ
Planning Section – Basinwide Planning Unit
1617 Mail Service Center
Raleigh, NC 27699
Phone: 919-733-5083 ext. 367
Email: michelle.raquet@ncmail.net

5.4. LOCAL INITIATIVES.

5.4.A. Greene County Soil Conservation District

Greene County Soil Conservation District is a non-profit 501-(3)(c) corporation organized under the laws of the state of Tennessee for the purpose of assisting members of the county manage and improve natural resources (soil, water, air, plants, and animals) for the betterment of all citizens of the county. The Conservation District is directed by a five-member board that meets once each month to review projects and technical assistance request from county citizens. All project funding and project payments are approved by the board.

Greene County, located in East Tennessee, in the Nolichucky River Watershed, has a total of 56 named creeks that are assessed as impaired on the 2006 303(d) list of impaired streams.

Over the last four years a concerted effort has been made to reduce this number by installing agricultural Best Management Practices (BMPs) such as exclusion fencing, heavy use areas, and livestock watering systems. Approximately $500,000 of cost share funds have been obtained from the Tennessee Department of Agriculture (TDA) ARCF/303(d) fund, U.S. Fish and Wildlife Partners fund, Tennessee Wildlife Resources Agency (TWRA) funds, and Tennessee Valley Authority (TVA) partners fund. A considerable amount of BMPs have been installed, much of it on a small watershed basis, but none of the streams have been removed from the 303(d) list.

During calendar 2006 a small grant was obtained from the TDA 319 program to develop a five-year program for a small watershed. Our hope is that we can concentrate enough effort and funding in this one watershed to be able to see significant improvements within the five-year program.

Our initial effort was to find other agencies that would participate with the District for evaluation, design, construction, and monitoring. To that end, we met with the following groups: Biology and Technology Department of Tusculum College, 4-H and Future Farmers of America (FFA) programs in the county, and other agencies that may have input to the program. Those agencies included: USFWS, TVA, and TWRA regarding identity of any Threatened & Endangered species in the watershed. We also discussed IBI information and Rule of Thumb guidance with TDEC and TVA.

As a result of these discussions, we were able to enter into agreements with USFWS, TVA and TWRA for their assistance in identifying Threatened & Endangered species and review of some of the BMPs. Also, Natural Resources Conservation Service (NRCS) engineering and technical staff will be assisting with implementing watershed work.

The major problem in the watershed was determined to be flash flooding resulting from runoff of impervious surfaces at the shopping areas along highway 11E and the campus of Tusculum College. The first year of activity in the watershed is planned to work on stormwater retention and general runoff control of parking surfaces and building roofs. It is believed that these flood control measures will have the largest impact on flash flooding in the watershed.

The District held a stakeholders meeting with landowners, Tusculum College Administration and Faculty and city/county officials to layout plans for the development of the watershed plan and how it will be implemented.

Students at Tusculum College were invited to be involved in surveying College Creek for watershed problems. Four classes, a total of 120 students and 15 faculty members, were provided one hour of classroom instruction in methods of surveying creeks for problems associated with creek impairment. The Tusculum Students participated in the College Creek survey on Tusculum Students Honor Memory of 'Nettie' With Volunteer Service Day. Nettie Day is in Honor of Nettie McCormick, wife of Cyrus McCormick, who was an early benefactor of the college. The entire reach of the creek was walked, damaged areas photographed, GPS readings taken, and stream width and bank depth were recorded at each damaged area.

A second presentation was made to the stakeholders of the watershed at a meeting at Tusculum College to present the findings of the creek survey. The materials were presented to approximately 20 people including College representatives, residents of the watershed, Town of Tusculum Government, NRCS and a local civil engineering firm. Questions were asked and answered and a significant buy-in was expressed by those in attendance. In fact a landowner adjoining the creek asked for the engineering company helping us evaluate detention areas along the creek to design a rainwater collection cistern and rain garden combination for his site.

The resultant 319 Grant Proposal submitted for College Creek will include the following four major BMP categories.

1. Stormwater detention areas (3 in 2007 with additional ones in the later years).
2. Created wetlands (initially on the college campus but planned for other locations as well).
3. Design of a rainwater gathering and storage system at Tusculum College for athletic field irrigation (to be installed in 2008, 2009 and 2010). This concept of gathering rain water for non-consumption uses will be encouraged throughout the watershed and included in each year of the program.
4. Approximately 6 miles of streambank restoration (mainly bioengineered but some rock re-enforcement) – some in each year of the five-year program.
5. Livestock exclusion fencing and alternate watering systems (some in each year of the five year program).

The activities of the District concerning watershed work in Greene County have received considerable publicity through the local newspaper and TV stations. The awareness of the community concerning impaired streams has continued to increase with each project completed. It is anticipated that some money may start to become available from local foundations in the coming years.

During 2007 two additional 319 watershed plans will be written encompassing approximately 17,000 acres of the county and the Town of Greeneville. The College Creek and the two additional watersheds drain approximately 2/3 of the stormwater from Greeneville (approximately 20,000 acres) and causes considerable damage from street

contamination and flood scouring of stream banks. The goal is to restore all three watersheds by 2015.

For more information about the Greene County Soil Conservation District project please contact:

Paul Hayden, Soil Conservationist
Greene County Soil Conservation District
214 North College Street, Suite 200
Greeneville, Tennessee 37743
Phone: Office 423-638-4771 ext 3 or email at paul.hayden@tn.nacdnet.net

5.4.B. The Upper Nolichucky Watershed Alliance The mission of the Upper Nolichucky Watershed Alliance (UNWA) is to protect and enhance the watershed by monitoring conditions, educating stakeholders, and building cooperative partnerships that enable us to implement progressive, innovative solutions to water quality issues. Our vision is healthy and biologically diverse water resources, supported by both public and private stakeholders who cooperate to protect and enhance the watershed.

UNWA is a non-profit volunteer-driven organization that monitors creeks and streams as well as portions of the Nolichucky River in Washington and Unicoi counties in east Tennessee. The core of our alliance is a group of dedicated citizen monitors from Greene, Sullivan, Washington, and Unicoi counties who are dedicated to preserving and enhancing the ecological health of the Nolichucky River and its tributaries.

The heart of UNWA's work is the water quality monitoring completed by a diverse corps of citizen volunteers whose work is crucial to UNWA's success. Volunteer monitors are trained by environmental professionals to use the acclaimed Virginia Save Our Streams sampling protocol. UNWA volunteer monitors also receive annual Quality Assurance/Quality Control certification at their field sites. The organization conducts biological and chemical field monitoring studies to get a more detailed understanding of the status of the watershed. Education and outreach efforts include sponsorship of public meetings and special events, training workshops, water quality education programs, and stream clean-ups.

UNWA was incorporated as a non-profit organization by the State of Tennessee in 2001. UNWA relies on the support of its members and generous individuals and corporations to provide critical manpower and funding that supports our monitoring and education efforts.

UNWA successes to date include:

- Annual stream cleanup of Little Limestone Creek in Jonesborough
- Quarterly biological monitoring of selected creeks and streams with data published on the SAMAB web site
- Water chemistry studies at selected sites
- Participation in the "Water Resource Benefit Study for Unicoi County" performed by Equinox Environmental of Asheville, NC

- Conduct visual stream assessments of impaired creeks and streams in the watershed to establish protection priorities
- Collaborative partnerships with agencies including The Town of Jonesborough, Tennessee Department of Environment & Conservation's Division of Water Pollution Control, Tennessee Izaak Walton League, Tennessee Wildlife Resources Agency, local chambers of commerce, the Environmental Club of David Crockett High School, educational organizations like the Cedar Creek Learning Center and Buffalo Mountain Camp, and several local outdoor adventure businesses

For more information contact:

UNWA
P.O. Box 56
Erwin, TN 37650

Email: UNWAmail@aol.com

5.4.C. The Middle Nolichucky Watershed Alliance. The Middle Nolichucky Watershed Alliance (MNWA) is a nonprofit organization dedicated to improving the water quality of the Nolichucky River through increasing public awareness about the sources of water pollution and the importance of each community member in protecting streams, rivers, and lakes. The Middle Nolichucky Watershed Alliance (MNWA) became a non-profit, member corporation with 501(c)(3) tax-exempt status from the Internal Revenue Service in May 2002. The alliance is comprised of citizens interested in their community, local agency personnel, as well as state and federal representatives, which provide technical support for projects.

Throughout the year, the MNWA sponsors a variety of events to increase public awareness regarding water quality in Greene County, such as educational programs, stream assessments, stream clean-ups, sharing information through local media, and obtaining grants and other resources to address nonpoint pollution problems. The MNWA is funded by grants and donations. In addition, we partner with other local groups to support community efforts for watershed improvement.

MNWA successes to date:

- Sponsored the TN Growth Readiness Workshop Series for Greene County and its municipalities
- Assisted in the development of the EPA 319 Watershed Action Plan for Little Chucky Creek
- Supported Town of Greeneville's Stormwater Outreach Efforts by providing an information card for homeowners
- Worked with Greene County Soil Conservation District to help fund agricultural BMPs

- Formed a Technical Advisory Committee consisting of local, state, and federal agencies (US Fish and Wildlife Service, Tennessee Wildlife Resource Agency, Greene County Soil District, etc.)
- Annual canoe floats on the Nolichucky River
- Annual stream clean-ups
- Adult and student education programs on water quality issues, such as community presentations and annual programs, i.e. conservation camp and a stream monitoring day for students
- Monthly meetings

For more information about the MNWA or its programs:

Middle Nolichucky Watershed Alliance
P.O. Box 145
Greeneville, TN 37744

Website: www.middlenolichuckywatershedalliance.org

E-mail: nolichuckyinfo@yahoo.com

5.4.D. The Smoky Mountain Resource Conservation and Development (RC&D) Council.

COUNCIL OVERVIEW

The Smoky Mountain Resource Conservation and Development (RC&D) Area encompasses both the Smoky Mountains of East Tennessee, as well as parts of the French Broad, Nolichucky, Little Tennessee, and Lower French Broad River Basins. The counties included in this RC&D area are as follows: Blount, Cocke, Hamblen, Jefferson, Knox, and Sevier. The area includes approximately 1,629,440 acres – including parts of the Great Smoky Mountains National Park and the Cherokee National Forest. The area is bordered by the mountains of North Carolina along the southeast, by Greene County (TN) on the northeast, by the Lower French Broad River to the north, and by Anderson, Roane, and Loudon counties to the west. The area has a very diverse land use and geology. This is a rugged, rural landscape that is dominated by the Appalachian Mountains. The severely dissected ridges and narrow valleys that formed the western frontier of early America continue to influence transportation, commerce, agriculture, and land use.

The population of the six county region is approximately 712,171 according to an estimated figure obtained by the US Census Bureau in 2002. Farming enterprises include beef cattle, tobacco, dairy, poultry, and specialty crops. The vast majority of farmers are part-time within this region. Most jobs are in a variety of service trades (16.7%) and manufacturing facilities (21.3%). The average per capita income for the area in 1999 was $17,970, with the median household income calculated to be $33,460 per year. Unemployment across the area was calculated at a rate of 5.7%.

The Smoky Mountain RC&D Area received its charter in June 1997, as well as successfully obtained its 501(c)(3) tax status with the Internal Revenue Service. At this point, the Council consisted of only five counties (Blount, Cocke, Hamblen, Jefferson, and Sevier). The Council's borders were expanded to include Knox County in late 2004.

In addition, the Smoky Mountain RC&D Council has received grants from the USDA Forest Service, Tennessee Department of Agriculture, Tennessee Valley Authority, US Fish & Wildlife Service, Tennessee Arts Commission, and the USDA – Rural Development. The funds generated from these grantors have been (and will be) used to initiate and complete projects that will help to meet the goals and objectives of our council.

MISSION STATEMENT

The mission of the Smoky Mountain RC&D Council and its programs is to empower residents to improve their quality of life through economic and community development while sustaining the natural resources of the area.

COUNCIL GOALS

Goal A: Expand sustainable economic development while conserving the area's natural resources.

Goal B: Promote new and innovative entrepreneurial opportunities to individuals within the RC&D Area.

Goal C: Educate individuals within the area on the importance of clean drinking water, as well as on the value of teaching water quality – in general terms.

Goal D: Reach 25% of the RC&D Area population with educational programs by 2010, which will empower them with the knowledge and desire to improve their quality of life.

5.4.E. The Appalachian Resource Conservation and Development Council. The mission of the Appalachian RC&D Council is to conserve natural resources and improve rural economies through community leadership and enhanced educational opportunities.

The Appalachian RC&D Council assists in administering the USDA Resource Conservation and Development Program, which is a unique combination of private enterprise and federal assistance that encourages economic growth through development, conservation, and planned utilization of natural resources across the council area and Tennessee. Just a few services the RC&D Program is providing in our community are conservation education, farmland protection, providing technical assistance, ensuring community services, establishing sustainable development, encouraging natural resource protection, and communicating local Issues.

The Appalachian RC&D Council is quite active with numerous watershed area groups in our six county region. Along with TVA, the Appalachian RC&D Council started the

Upper and Middle Nolichucky and Upper Holston Watershed Alliances and have provided considerable support to them as well as to the Boone Watershed Partnership.

For more information on the Appalachian RC&D Council and its programs, contact Roy Settle, NRCS-RC&D Coordinator at 423-753-4441 ext. 4 or roy@appalachianrcd.org or visit the web site www.appalachianrcd.org.